Contents

FO	PREWORD ii
AC	KNOWLEDGEMENTS v
IN'	TRODUCTION vii
I:	MOBILIZATION 1
	Organization and Responsibilities
	The Air Corps Construction Mission 17 by Charles Hendricks
	Building the Atlantic Bases
	Air Ferry Routes Across the South Pacific 47 by Donald T. Fitzgerald
	The Engineer Replacement Training Center, Fort Belvoir, Virginia
	The Engineer Replacement Training Center, Fort Leonard Wood, Missouri
II:	MILITARY CONSTRUCTION, CONTINENTAL UNITED STATES 95
	The Military Construction Mission
	Constructing the Pentagon
	Building the Road to Alaska
	The Louisville Engineer District
	Formation of the Manhattan Engineer District

III:	RESEARCH AND DEVELOPMENT157
	The Portable SCR-625 Mine Detector
	The Tank Dozer
	The Bailey: The Amazing, All-Purpose Bridge181 by Larry D. Roberts
	Landing Mat Development at WES
	Airfields for Heavy Bombers
IV:	CIVIL WORKS
•	Civil Works Developments
	The Pick-Sloan Plan
	War in the Heartland: The St. Paul District
	Mobilizing the Waterways: The Mississippi River Navigation System 259 by Michael C. Robinson
	Rivers in Miniature: The Mississippi Basin Model
	Bonneville Dam's Contribution to the War Effort

V:	OVERSEAS303
	The Persian Gulf Command: Lifeline to the Soviet Union
	Reconstruction of Le Havre
	The Ledo Road
VI:	COMBAT ENGINEERING: WAR IN THE FAR EAST
	Aviation and Amphibian Engineers in the Southwest Pacific
	The Battle of Attu
	The Liberation of the Philippines
	Cave Warfare on Okinawa
VII:	COMBAT ENGINEERING: WAR IN EUROPE
	Engineers in Sicily
	The Volturno River Crossing
	The Normandy Landing
	Engineers in the Battle of the Bulge451 by William C. Baldwin
	The Rhine River Crossings

AUTHORS 477	
ACRONYMS AND ABBREVIATIONS	483
INDEX	487
ILLUSTRATIONS	
1 August 1940 Reorganization, Office of the Chief of Engineers	5
6 June 1942 Reorganization, Office of the Chief of Engineers	6
30 April 1945 Reorganization, Office of the Chief of Engineers	9
Alaska Highway Road Construction: May–July 1942	129
Alaska Highway Sector Responsibilities	134
Civil Works Expenditures	229
Mississippi River Key Commodities, 1938–1948	253
Upper Mississippi River Commodities, 1938–1948	255
Total Tonnage of Traffic on Mississippi River Navigation System	272
MAPS	
North Atlantic Air Routes	29
South Atlantic Air Routes	36
Pacific Air Routes	47
ALCAN Highway	117
Pick-Sloan Plan for Missouri River Basin	
The Ledo Road	328
Papua and Northeast New Guinea	
Netherlands and Northeast New Guinea	

MAPS continued
General MacArthur's Strategy, 1943–1945363
Aleutian Islands and Attu
Philippine Islands379
Central Luzon386
Okinawa Island Group
Sicily, 1943405
Volturno River, Italy421
Final OVERLORD Plan433
OMAHA Beach436
UTAH Beach445
The Ardennes
Advance to the Rhine463
PHOTOGRAPHS I: Mobilization
War Department building during World War II
Major General Julian Schley, Chief of Engineers, 1937–1941 4
Lieutenant General Eugene Reybold, Chief of Engineers, 1941–1945 5
General George C. Marshall, Army Chief of Staff, 1939–1945
Hamilton Field, California 20
Hangar No. 1, MacDill Field, Tampa, Florida 23
Construction, Paine Field, Everett, Washington
Bradley Field, Windsor Locks, Connecticut 25
Paving Runway 2, Harmon Field, Newfoundland
Bluie West 1 Airfield, Greenland 32
Bluie East 2 Airfield, Greenland 33

I:	Mobilization continued	
	Kindley Field, Castle Harbor, Bermuda	35
	Runway construction, Atkinson Field, British Guiana	38
	New construction, Val-de-Cães Field, Belém, Brazil	40
	Thatched-roof barracks, Roberts Field, Liberia	41
	B-26 Marauder, Wideawake Field, Ascension Island	41
	Soldiers on Ascension Island use potable water	42
	Battery Harlow, Fort Ruger, Hawaii	49
	Fort Ruger's 16-inch guns	50
	Luke Field, Ford Island, Pearl Harbor	51
	An early B-17E lands, Eastern Island, Midway	54
	Engineers apply lessons learned, Port Moresby, New Guinea	61
	The Duck Board, Fort Belvoir, Virginia, 1941	65
	Military Obstacle Course, Fort Belvoir, Virginia	68
	Brigadier General Edwin Hall Marks, Commander, Fort Belvoir, Virginia, 1941–1944	69
	Assault boat ponton bridge	71
	Obstacles training, Fort Belvoir, Virginia	74
	Barracks construction, Fort Leonard Wood, Missouri	80
	Physical conditioning, Fort Leonard Wood, Missouri	84
	Firing range, Fort Leonard Wood, Missouri	86
	Portions of a 25-ton bridge, Fort Leonard Wood, Missouri	86
	Field expedient raft training, Fort Leonard Wood, Missouri	87

II: Military Construction,

Continental United States
Michael J. Madigan, special assistant to the Under Secretary of War 98
Transfer of Army Building Construction
to the Corps of Engineers
addressing construction workers
Hangar construction, MacDill Field, Florida 103
Northwest exposure of the Pentagon construction112
Construction of the river entrance to the Pentagon113
Pentagon construction, northeast exposure114
Brigadier General William M. Hoge,
commander of Alaska Highway project118
Topographic engineers survey site for Alaska Highway120
Cleared but ungraded and unfinished road for Alaska Highway121
Timber bridge across the Raspberry River124
The Caterpillar D-8 bulldozer cuts road
for Alaska Highway
Timber box culverts in great use along the Alaska Highway
Permafrost presented many problems
on Alaska Highway130
Corduroy roads were necessary in boggy areas in Yukon Territory
Meeting of the bulldozers at Beaver Creek, Yukon Territory
Godman Field, Fort Knox, Kentucky138
Enlisted housing, Camp Atterbury, Indiana141
Buildings for hospital group,
Camp Atterbury, Indiana142

PH(STOGRAPHS continued
II:	Military Construction continued
	Village Fighting Course, Fort Knox, Kentucky143
	General Leslie Groves
	Clinton Engineer Works, Oak Ridge, Tennessee
	Completed gaseous diffusion plant, Oak Ridge, Tennessee
III:	Research and Development
	The SAD SACK, "Mechanized War"161
	Training soldiers of the 81st ECB
	to use mine detectors
	Short-Arm Detector Set SCR-625(H)167
	Soldiers of the 308th ECB sweep snowy road for mines
	Tank dozer used on antipersonnel obstacles
	Tank dozer breaches obstacles
	British floating Bailey bridge on Mark VI pontons182
	Engineers lift the bascule span of a class 70 Bailey bridge
	Traffic crossing class 70 panel bridge with pedestrian walk
	Assembly of floating Bailey bridge189
	Duel passageway Bailey bridge across the Varenne River, France
	Pierced plank mat landing field198
	Researchers test experimental mat199
	Operational testing of pierced steel plank mat200
	Experimental bar and rod mat201

PHOTOGRAPHS continued III: Research and Development continued Prefabricated bituminous surfacing (PBS)203 Stamplicker lays prefabricated bituminous surfacing203 Conference at Stockton Test Track, California A 120-ton pneumatic roller compacts soil212 IV: Civil Works Barges on the inland waterway system220 Newly constructed submarine heads to sea221 Troops in Arkansas fight flood on the White River228 W. Glenn Sloan and The Oahe Project at Pierre, South Dakota240 The Fort Randall Reservoir. Pickstown, South Dakota242 Major Lynn C. Barnes inspecting plant247 Brick laying at Twin Cities Tanker built at Cargill Corporation250 Naval craft in Corps dry dock Destroyer escort built at Entrance to Clinton Internment Camp282 German POWs clearing Aerial view of model site during excavation 286 German POWs placing drainage system288

PHOTOGRAPHS continued IV: Civil Works continued. Detail of completed concrete Aerial view of the Bonneville Dam296 Interior of original powerhouse, V: Military Construction Overseas His Royal Highness, the Shah of Iran305 Major General Donald H. Connolly307 A Persian Gulf Command A ceremonial train carrying lend-lease aid312 Blowing German concrete barges underwater ...319 Reinforced concrete road block, before320 Reinforced concrete road block, after321 Bulldozers clearing a slide in Burma331 Survey party on elephants passes bulldozer332 Ledo Road twists through Burma mountains ...337 Clearing mud caused by a two-day rainfall341 Bailey bridge construction Bailey cable bridge over the Shweli River345 VI: Combat Engineering: War in the Far East Engineers place pierced steel plank, Preparation for the Hollandia landings361 Landing craft of the 2d Engineer

VI:	War in the Far East continued
	Airfield constructed by engineers
	on Middelburg Island
	Soldier with cold injury, Attu Island371
	Troops struggle to move gun
	mired in the tundra
	Soldiers advance up an Attu valley373
	Supplies piled up on Massacre Bay374
	Diversion of LSTs to
	White Beach-Cataisan Point
	Highway No.1 going north from Burauen, Leyte Island
	Infantry support rafts on the Pasig River 389
	Engineers cut steel reinforcers in
	Manila City Hall391
	Hillside honeycombed with
	Japanese caves and dugouts397
	Flame throwing tank attacks
	Japanese caves
VII:	Combat Engineering: War in Europe
	"Hanging a bridge in the sky" in Sicily417
	Engineers position stringers on sky bridge417
	General Truscott takes first vehicle
	across the bridge418
	The Corps bridge at Triflisco Gap428
	Fixed bridge at Capua, Italy429
	Wrecked ponton bridge on Volturno River 430
	Engineers add steel sections
	to prevent a washout431
	Belgian Gate, Element "C"
	A Teller mine on a pole
	Landing craft nears beach on
	northern coast of France

VII:	War in Europe continued
	Engineers lay out roads on the soft sands440
	American assault troops move onto OMAHA Beach
	Survivors of enemy action reach UTAH Beach
	Engineers sweep for mines in the Ardennes
	Soldier checks a TNT charge during the Battle of the Bulge
	Bridge over the Ourthe River at Hotton, Belgium459
	291st ECB builds first tactical bridge over the Rhine464
	51st ECB completes second tactical bridge over Rhine465
	The Ludendorff bridge collapsed on 17 March 1945
	Treadway bridge built under fire at Mainz, Germany471
	The 160th ECB bridge at Mainz, Germany472
	Ponton bridge built overnight near Wallach, Germany473
	Ponton bridge across the Rhine by 167th ECB474